

its darker and brownish-olive upper parts, crossed by broad and wavy dusky markings and by narrow wavy markings of yellow; the spotting upon the wing-coverts less distinct; the under surface of the body very much less yellow. Total length 3·5 inches, culmen 0·4, wing 2·1, tail 1·1, tarsus 0·5.

♀. Differs from the male in having the forehead and crown like the occiput and nape, black, spotted with pure white.

The types are in my collection, the male being from Roraima, British Guiana, 5000 feet, Aug. 20 (*H. Whitely*); the female from Camacusa, May 3rd (*H. Whitely*).

XXXV.—*On the European Cuckoo and its Indian Allies.*

By EUGENE W. OATES, F.Z.S.

THE three allied species of Cuckoos which inhabit the Indian Empire have hitherto been considered separable only on the ground of size, and two of them, those most closely allied to each other, further on the score of their having different notes.

My object in writing the following is to show that their separation rests on a better and a more satisfactory basis than that of size and the practically useless character which a vocal note affords.

This basis is that of the plumage of the young, which differs conspicuously in each species and affords conclusive evidence that the three birds are quite distinct *ab ovo*.

All the Cuckoos of the *Cuculus canorus* type have the plumage of the young very complex. There is no evidence whatever to show that the young Cuckoo moults either in the first autumn or in the following spring; and the evidence on the other hand is overwhelming that from the nestling-stage to the adult plumage the change is effected by a continual and never-ceasing alteration in the colour of the feathers. These changes are systematic and subject to rule in each species; but owing to individual temperaments hardly two young birds will ever be found to be exactly alike. But the

moult in the second autumn brings them all up to the one level of the fully adult plumage. The changes, however, that take place between the first spring and the second autumn are trivial compared to those that take place from the time of birth up to the first spring, in other words during the first winter.

The adults of the three Indian *Cuculi* are not always to be discriminated with certainty. There are some specimens which might be relegated indifferently to one or other of the two species between which they lie. Such specimens, however, are not very numerous. The following Key will, I think, suffice in most cases for the identification of the adults :—

- a. Wing measuring between 8 and 9 inches in length ;
bars on the lower plumage narrow, wavy, interrupted *canorus*.
- b. Wing measuring between 6·5 and 7·8 inches in
length; bars on the lower plumage broader,
straighter, continuous *striatus* *.
- c. Wing seldom exceeding 6 inches in length; the
lower plumage richly coloured *poliocephalus*.

The females of all three species are generally distinguishable from the males by the presence of a rufous band across the breast.

Turning to the young, we find that in *Cuculus canorus* there are two well-defined stages of plumage, the brown and the rufous.

The nestling is of a dark brown above, indistinctly barred with rufous, and each feather also indistinctly edged with white ; there is a well-defined white nuchal spot. The lower plumage is barred with black and white, the bars being of about equal thickness on the abdomen, but the black ones being broader than the white ones on the throat and breast. Before the nestling is quite fully fledged the white margins of the feathers of the upper plumage become very much reduced in size, and the rufous bars on the same parts disappear

* This name and the next are provisional, as I have not yet gone into the question of the exact names these Cuckoos should bear.

except on the wings ; the tail is very similar to that of the adult, but there are a few broken rufous bars on it.

In the second stage the whole upper plumage, the wings, and the tail become regularly and finely barred with pale rufous ; the black bars on the lower plumage become narrower and more sharply defined, and the nuchal spot is still present, either as a spot, or indicated by one or more white feathers.

The transition from the first stage to the second is very gradual, and so it is also from the second stage to the adult plumage. In many birds as soon as the second stage of plumage is donned traces of the adult plumage begin to make their appearance, generally by the acquisition of ashy patches on the upper parts. The nuchal spot is retained till some such ashy patches appear, and is then lost.

Cuculus striatus similarly passes through two stages of plumage, in both of which the white nuchal spot is absent.

In the nestling or first stage the upper plumage is blackish, the feathers of the wing marked with rufous, the others margined with white. The chin and throat are entirely black, occasionally with a trace of white here and there, but with nothing approaching to bars. The remaining lower parts are white broadly banded with black. The tail is similar to that of the adult, but with some rufous on the edges of the feathers in somewhat older birds.

In the second stage the whole upper plumage, with the tail, is blackish, barred throughout with dark rufous (not pale rufous), and the throat becomes deeply tinged with rufous. The white margins of the upper plumage are cast, and the black bands on the lower plumage become very broad.

In *Cuculus poliocephalus* the young pass through three distinct stages :—

The first stage is exactly the same as that of *C. striatus*, there being, equally with that species, no nuchal spot.

In the second stage the white nuchal spot appears and a half-collar of white on the hind neck. In other respects the plumage in this stage is very similar to that of the first stage of *C. canorus*.

In the third stage the whole upper plumage, wings, and tail are *bright chestnut* barred with black; the lower plumage is very regularly barred with black, and the throat and breast are tinged with deep chestnut; the nuchal spot and the half-collar are absent.

In attaining mature plumage, the black bars on the neck, rump, and upper tail-coverts are the first to disappear and to give place to ashy patches.

It is sufficiently evident from the above descriptions that the young of the three species are quite distinct in coloration, taking birds of the same age together for comparison, and that in some stages there is a plumage which cannot be matched by any other stage of either of the other species.

To render these remarks of some practical utility it will be necessary now to focus the differences and to point out how they may be of service in determining the species when young birds only are under examination.

In the young nestling-stage, when size goes for nothing, and the wing is not grown to allow of measurement, the white nuchal spot will separate *C. canorus* from the other two Cuckoos. This spot will also at all ages serve to separate it from *C. striatus*, but not from *C. poliocephalus*, from which latter, however, it can be distinguished, when the nuchal spot is no longer a character, by its much greater size and pale rufous coloration.

C. striatus and *C. poliocephalus* in the mere nestling-stages cannot, I think, be separated except by size; but once the nuchal spot and the half-collar are assumed by the latter there is no difficulty whatever.

All three birds, in their rufous stage, are easy to separate: *C. canorus* is pale rufous; *C. striatus* dark rufous, with coarse bars; and *C. poliocephalus* chestnut, delicately barred.

I do not put forward the above characters as infallible. I merely wish to point out that in all three species the young pass through peculiar phases of plumage, which show them to be very distinct. It would not be difficult to find a young bird now and again the plumage of which sets these general laws at defiance; but I consider that, interpreted

broadly and liberally, the above-given diagnoses will generally suffice for the identification of the species.

In the Cuckoos especially it is necessary to have some clue to the young plumage, for the reason that the parents can never be shot along with the nestling. All the three species of Cuckoo now noticed breed in some part or other of India, and a complete knowledge of their geographical distribution in the breeding-season can only be obtained by the correct identification of skins in museums, especially those of young birds.

XXXVI.—*A List of the Birds of the Islands of the Coast of Yucatan and of the Bay of Honduras.* By OSBERT SALVIN, M.A., F.R.S., &c.

[Continued from 'The Ibis,' 1888, p. 265.]

+89. MYIOPAGIS PLACENS.

Elainea placens, ScL. ? ; Ridgw. Proc. U.S. Nat. Mus. viii. p. 571 ; ScL. Cat. B. Brit. Mus. xiv. p. 148.

Myiopagis placens, Salv. & Godm. Biol. Centr.-Am., Aves, ii. p. 26.

Mugeres I. (December) ; Cozumel I. (January, April).

Many specimens, agreeing with a large series from the mainland of Central and South America.

+90. ORNITHION IMBERBE.

Camptostoma imberbe, ScL. P. Z. S. 1857, p. 203.

Ornithion imberbe, ScL. Cat. B. Brit. Mus. xiv. p. 126 ; Salv. & Godm. Biol. Centr.-Am., Aves, ii. p. 29.

Cozumel I. (January, April).

This little bird is now known to have a very extended range, being found from Texas to South Brazil. It is probably resident wherever it occurs.

+91. ELAINEA MARTINICA.

Elainea martinica (Linn.) ? ; Ridgw. Proc. U.S. Nat. Mus. viii. p. 571 ; Salv. & Godm. Biol. Centr.-Am., Aves, ii. p. 36.